

Application No. 09/381,828

Attorney Docket No.: 2964-0102P

Art Unit 1743

Reply to Office Action of September 28, 2005

AMENDMENTS TO THE DRAWINGS

Figures 1 and 2 have been amended as show in the Replacement Drawings attached hereto.

REMARKS

A Petition for Extension of Time is being concurrently filed with this Amendment. Applicant notes that January 28, 2006, falls on a Saturday, and this Amendment is being timely filed on the following Monday.

Applicant respectfully requests the Examiner to reconsider the present application in view of the foregoing amendments to Figures 1-2 of the present specification and the pending claims.

Status of the Claims

In the present Reply, claims 1 and 9 have been amended and claims 12-18 have been added for the Examiner's consideration and are directed to other embodiments of the present invention. This makes claims 1-18 as pending in the present application. Also, claims 3 and 9 are objected to but are allowable if properly rewritten (see paragraph 4 of the Office Action).

The amendment to claim 1 is merely for clarification purposes, and the skilled artisan would understand that the present invention was originally intended as being directed to the claimed automatic method. The amendment to claim 9 is also clarifying in nature and not narrowing in scope. No new matter has been added with these amendments.

No new matter has been added by way of these new claims as well. For instance, claims 12, 13 and 17 have support in the present specification at least in the paragraph bridging pages 5-6 (see especially page 5, lines 7 and 27 and page 6, lines 1-2, 7-8 and 21-22) and Figures 1-2 (Figure 2 shows turbidity). Also, newly presented claims 14-16 and 18 have support at page 3, lines 10-17 and 24-27 of the specification. Thus, no new matter has been added.

The amendments to Figures 1 and 2 (as seen in the Replacement Drawings) also do not add new matter. Applicant also refers the Examiner to at least page 5, lines 6-11 and 21 of the present specification which describes the amended parts of the Figures. Elements 11', 12' and 17 are also recited in pending claims 7 and 8. Thus, no new matter has been added.

In view of the following remarks, Applicants respectfully request that the Examiner withdraw all rejections and allow the currently pending claims. Applicant notes that any previous arguments/remarks are rendered moot in view of the new rejections (see paragraph 5 of the Office Action).

Substance of the Interview

Applicants thank Examiner A. Soderquist and Supervisory Patent Examiner (SPE) J. Warden for their time, helpfulness and courtesies extended to Applicants' representative during the Interview of January 12, 2006. The assistance of the Examiner and SPE in advancing prosecution of the present application is greatly appreciated. In compliance with M.P.E.P. § 713.04, Applicants submit the following remarks.

The Interview Summary form amply summarizes the discussions at the Interview. Various ways of addressing the prior art rejections were discussed, and suggestions were discussed that may be drafted to cover particular aspects of the invention as not described by the prior art. An amendment to claim 9 was also discussed, as explained in the next section below.

Applicants also request consideration of the new claims presented herein.

Issues under 35 U.S.C. § 112, Second Paragraph

Claim 9 stands rejected under 35 U.S.C. § 112, second paragraph, for the reason stated in paragraph 1, page 2 of the outstanding Office Action. Applicants respectfully traverse, and reconsideration and withdrawal of this rejection are respectfully requested.

The dosage organ of claim 9 is directed to a dosage organ (e.g., functions to withdraw liquid from the measuring cell) that is in addition to the one recited in independent claim 7. This is clearly shown in the amendment presented herein. Thus, with this clarification, Applicants respectfully request reconsideration and withdrawal of this rejection.

Issues under 35 U.S.C. § 103(a)

Claims 1, 2, 4-8 and 10-11 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over **Tondre et al.** (*J. Dispersion Science and Technology*, Vol. 7(5), pp. 581-597 (1986)) in view of **Rouse et al.** (*JAOCS*, Vol. 71, No. 1, pp. 37-42 (1995)) and **Dombay et al.** (*Proc. Conf. Colloid Chem. Mem.* (1988); newly cited) or **Hagan et al.** (*Review of Scientific Instruments*, Vol. 58, pp. 468-474 (1987); newly cited). Applicants respectfully traverse, and reconsideration and withdrawal of these rejections are respectfully requested. Overall, Applicants do not concede that a *prima facie* case of obviousness has been established with respect to any of these rejections.

Summary of Applicants' Position

The cited Tondre, Rouse and Dombay or Hagan references are improperly combined several reasons. First, and generally, none of the cited combinations of references discloses at

least the instantly claimed step 5) of pending claim 1, which is “the values obtained for the dependent properties are combined with the values for the independent properties to measuring points and stored electronically in a computer”. Step 5) of instantly pending claim 1 is essentially taking the values of the dependent property and combined with the independent variables (e.g., concentration; temperature) by the computer. This claimed feature is missing in the cited combinations of references.

In addition, the cited combinations of references do not disclose the instantly claimed feature of taking numerical measurements of properties of the liquid as a function of concentration and temperature.

Further, even though the disclosure of Rouse, Dombay and Hagan and the *In re Venner* case are cited in the Office Action, Applicants respectfully submit that the claimed feature of the measuring points in the computer are coordinated and visualized in a 3-dimensional diagram is not disclosed in the cited combination of references (as explained in more detail below). Applicants note that the assertion of automation is not novel is not applicable to the instant situation since the present invention uses a control program for concentration, a control program for temperature, and then the various data is collected, stored and converted into, e.g., the three-dimensional diagram. Thus, it not simply an issue of automation considering the many features involved in the claimed invention.

Applicants note the other deficiencies in the cited combinations of references as shown in the chart below:

<u>No. for</u>	<u>Claimed Feature in Claim 1</u>	<u>Invention</u>	<u>Tondre</u>	<u>Rouse</u>	<u>Dombay</u>	<u>Hagan</u>
1	Automated	Yes	No	Yes	No	No
2	Numerical measurement of property as a function of concentration and temperature	Yes	No ⁷⁾	No	No	No
3	Concentration is changed according to a computerized control program and	Yes	Yes	No ⁴⁾	No	No
4	calculated from the program by a computer	Yes	No	No ⁴⁾	No	No
5	temperature is changed by a temperature control program and	Yes	Yes	No	No	No
6	temperature is automatically calculated from the program or by measurements	Yes	No	No	No	No
7	Concentration is changed by addition directly into the measuring cell according to the control program for concentration	Yes	Yes	No ⁴⁾	No	No
8	Measurements of the dependent property within the temperature range for each concentration level	Yes	Yes	No	No	No
9	Values of the property is combined with the independent variables by the computer	Yes	No	No	No	No
10	and the measuring points in the computer are coordinated and visualized in a 3-dimensional diagram	Yes	No	No	No	No
11	Determination of concentration from the control program	Yes	Yes	No	No	Yes

⁴⁾ samples were manually produced

⁷⁾ analogous measurements

Thus, a *prima facie* case of obviousness has not been established since there is no disclosure of all claimed features (one of the three requirements for a *prima facie* case of obviousness). See *In re Vaeck*, 947 F.2d 488, 493, 20 USPQ2d 1438, 1442 (Fed. Cir. 1991). For instance, as can be seen from this chart, a *prima facie* case of obviousness has not been

established when not all claimed features, such as feature 2 or 6 shown in the chart above, have been disclosed in the cited combinations of references.

Further, Applicants respectfully submit that one of ordinary skill in the art would lack the requisite motivation and/or reasonable expectation of success to achieve the present invention. *In re Vaeck; supra*. This is because the Rouse, Dombay and Hagan reference are inconsistent with the disclosure in the primary reference since none of the secondary references even disclose the instantly claimed control programs.

In particular, Applicants note that step 2) in pending claim 1 recites “determining by calculation the values for the component concentration in the measuring cell based on data from a control program for the change of component concentration.” However, the Examiner has not sufficiently accounted for this element given the cited combinations of references. Specifically, the control program for the change of component concentration is a software program that performs a specific function(s), and none of the cited references of Rouse, Dombay or Hagan discloses such a feature. Further, Tondre as the primary reference does not make such a suggestion to use the its “diluter programmer” to attain “the values obtained for the dependent properties are combined with the values for the independent properties to measuring points and stored electronically in a computer” as instantly claimed. Applicant notes the other missing features in Tondre as shown in the chart above. Thus, a *prima facie* case of obviousness has not been established since the requisite motivation and/or reasonable expectation of success are lacking. *See In re Vaeck; supra*.

Further, step 3) of pending claim 1 is directed to changing the value of the component concentration based on a component concentration control program. Again, none of the cited secondary references discloses such a feature.

Similarly, step 2) of claim 1 recites “. . . determining the temperatures by calculation from a temperature control program . . .”. Again, the Examiner has not sufficiently accounted for this element with the disclosure in the cited combinations of references. Specifically, the temperature control program in the present invention is a software program that performs a specific function(s), and disclosure of that software program with specific function is missing in any and all of the cited secondary references. Put differently, none of the cited references of Rouse and Dombay or Hagan discloses such a temperature control program feature. Thus, a *prima facie* case of obviousness has not been established since the requisite motivation and/or reasonable expectation of success are lacking. *See In re Vaeck; supra.*

Detailed Arguments that the References Are Improperly Combined to Form Instant Rejections

Applicants previously stated at the bottom of page 13 of the July 15, 2005 Amendment: “Overall, neither Tondre nor Rouse discloses, recognizes, suggests or relates to the creation of any three-dimensional diagrams of the kind as instantly claimed in the present invention. *This is a major deficiency of both references*”. Thus, it appears that the Examiner is using the disclosures in Rouse, Dombay or Hagan to account for these deficiencies of generating three-dimensional diagrams in Tondre and Rouse. The following conclusion of obviousness is made in the Office Action:

“It would have been obvious to one of ordinary skill in the art at the time the invention was made to add the computer of Rouse, Dombay or Hagan and use it to store the data of Tondre and produce three dimensional diagrams of the data as shown by Rouse, Dombay or Hagan because of the ability to map out an emulsion property, overcome the . . . as shown by Dombay or Hagan.”

(See the paragraph 5, page 5, first full paragraph of the Office Action).

However, just combining Dombay and Hagan with the other references of Tondre and Rouse does not mean the combination of Tondre and Rouse itself is any more proper. In particular, Applicants respectfully submit that one of ordinary skill in the art would not combine Tondre and Rouse, and further with Dombay and Hagan, because the present invention is significantly different in aim, method and equipment versus that in Tondre, Rouse, Dombay and Hagan as explained in more detail below. Applicants further add that the assertion of automation is not novel is not applicable to the instant situation since the present invention uses a control program for concentration, a control program for temperature, and then the various data is collected, stored and converted into, e.g., the three-dimensional diagram. Additionally, the cited combinations of references do not disclose the use of the independent variables of temperature and concentration in combination with various dependent properties, and to further use such various data to attain, e.g., a three-dimensional diagram. Thus, it not simply an issue of automation considering the many features involved in the claimed invention. Applicants now discuss the disclosure in each of the cited references, followed by the reasons why the skilled artisan would not combine such references.

(i) Tondre (Primary Reference)

The method of the present invention exhibits essential and patentable distinct differences in comparison with the Tondre *et al.* method.

Tondre *et al.* are concerned with the study of a ternary system formulated with nonionic surfactants (see the Abstract on page 581). The goal of the cited Tondre reference is to design a set-up that facilitates or permits a fast determination for the findings of isotropic microemulsion phases of a liquid (see the Abstract on page 581). Further, and as stated in the Office Action and during the recent Interview, the Examiner referred Applicant's representative to how the Tondre device has a temperature programmer and controller, a diluter with a programmer and equipment for measuring the light transmission of the liquid. However, there are key differences between Tondre and the present invention (wherein Tondre being further combined with the other cited references is improper).

First, Applicant refers the Examiner to the "experimental set up" section (see starting on page 583) of Tondre, wherein the reference describes an **analogous** diagram of temperature and the turbidity are recorded (see Figure 3 on page 586). In fact, the transmission is only recorded in the form of analogous values on paper as a function of time (see Fig. 3 in Tondre). In this same Figure, Tondre shows that the temperature is shown as a function of time. These curves are then manually evaluated and the turbidity values indicating the upper and lower borders for clear solutions are then manually transferred to two-dimensional diagrams, such as those shown in "Figure 3 bis" on page 587 and "Figure 1", (a)-(c) on page 584). Thus, the method of producing the temperature curve is explained on page 587, last paragraph, and is calculated as a slope with a temperature rise of 10°C per hour. This slope is manually introduced since there is no

disclosure in the Tondre reference whatsoever of a temperature recorder. Further, Figure 3 of Tondre shows no recording of the actual concentration but of the different additions that are manually indicated in Fig. 3 as “adduct” and “(a)”, “(b)”, etc., with manually calculated values. From the curves shown in Fig. 3, the actual temperature interval (wherein roughly 100% transmission existed) had to be manually estimated and combined with the manually calculated the water concentration. The result of this tedious operation is then manually plotted in a two-dimensional diagram showing the areas, wherein a clear phase exists (see Figure 3 bis on page 587).

Thus, one of ordinary skill in the art would understand that Tondre fails to disclose or suggest any automatic determination or measurement or any recording of the independent variables. Further, Tondre *et al.* fails to disclose three-dimensional diagrams of the kind defined in the present invention. Additionally, the cited Tondre reference fails to disclose or teach the automatic collection of numerical data for use in the presentation of three-dimensional diagrams. Such deficiencies of the primary reference are further not accounted for in the secondary reference of Rouse or in paragraph 5 of the Office action.

As stated, the method of the present invention exhibits essential differences in comparison with the method described in Tondre. In contrast to Tondre, the dependent property is measured and recorded (see instantly pending claim 1, step 1)) in electronic (digital) form and directly combined with the corresponding electrical values for the independent variables, namely concentration and temperature (see claim 1, step 5)). Further, in the present invention, the independent variables of temperature and concentration are determined in electric (digital) form by the data from their control programs. Temperature may also be determined by direct

measurements in the present invention (see claim 1, step 2)). Also in the present invention, the data of the independent variables and the dependent property are, as said above, combined and stored electronically for all measuring points in a computer (see claim 1, step 5)), which cannot be said of Tondre, and the measuring points are thereafter coordinated and visualized as a three-dimensional diagram (see claim 1, step 6)), which also cannot be said of the Tondre *et al.* disclosure.

(ii) Rouse

Rouse relates to an automated titration system for generating data to construct phase diagrams related to microemulsions (see the Abstract). In the Rouse procedure, a microemulsion (a clear liquid) is first titrated with an oil until the sample turns cloudy (see Abstract). The sample is then dosed with a cosurfactant in quantity that is **more than enough** to clear the sample. The sample is again titrated with oil and the procedure continues until the sample is clear (or no longer clears up), when adding the cosurfactant (see Abstract). Thus, the additions of oil and cosurfactant are unpredictable. The values obtained in Rouse are based on the concentration of the surfactant in the original sample. In order to obtain new values, new samples with another concentration of the surfactant have to be prepared and the whole process for collecting data has to be repeated. Each sample is provided with an individual set up and operating instructions (which is also not the present invention). Furthermore, the different samples are handled by a sample change unit, using up to 16 samples, and a sample lift station (which is not the present invention).

However, as shown in the chart above and also as mentioned in Applicant's Supplemental Appeal Brief of March 3, 2005 (see the chart on pages 69-70), Rouse fails to disclose many features of the claimed invention (e.g., Rouse fails to disclose the claimed numerical measurement of property as a function of concentration and temperature). Further, all diagrams in the Rouse reference merely show concentrations as variables with an arbitrarily chosen critical transmittance value. This is different from the present invention since the measurements in Rouse are all made at a fixed temperature, which means that temperature is not a considered variable. Applicant further submits that the diagrams in Rouse are not produced by a computer, but are instead plotted manually. Thus, Rouse fails to account for the deficiencies of Tondre.

The cited Dombay reference is also deficient in its disclosure and improperly combined with Tondre and Rouse.

(iii) Dombay

The cited secondary reference of Dombay discloses a method of analyzing the stability of emulsion by photometric analogous measurements of the turbidity over time (see, e.g., page 107, first paragraph). In this method the emulsions are manually prepared.

After the analysis, the sample is replaced with a new sample with a different concentration. Each sample is manually prepared and manually placed in the analytical device. The concentration values of the different samples and the curves for each individual sample are manually combined (see Figure 1 on page 107) and then recorded and represented in three-dimensional diagrams of the type shown in Figure 2 (page 108) and Figure 3 (page 109).

However, the Dombay method, including the collection of data, is not performed in the same manner as in the present application. This because the Dombay samples are prepared manually and further registered manually. Additionally, the other independent variable in Dombay is time, and not temperature as instantly claimed.

(iv) Hagan

The cited Hagan reference is also deficient in its disclosure and improperly combined with Tondre and Rouse.

The Hagan *et al.* reference relates to a software-controlled electrochemical system (see the Abstract on page 468). The system is designed for the characterization of a metallic surface (see Abstract and page 468, left column, second paragraph in the "Introduction" section). Thus, the aim is completely different from the one in the present invention and the system and its use have few things in common with the method and device of the present invention. In other words, Hagan is not in an analogous art with the present invention.

Hagan also states that for the time-dependent processes at the surface of an electrode it is of interest to record the small fluctuations in the current occurring in short periods of time (page 468, right column, second paragraph under the "Background" section). General readings are of interest for up to several minutes, but the readings of the first seconds are often of the greatest value (see last sentence of the second paragraph under the "Background" section, right column, page 468). Hagan performs, for example, voltage sweeps in millivolts per seconds (see, e.g., page 468, right column, second paragraph under the "Background" section). Thus, Figure 4 on

page 471 of Hagan shows a potentiodynamic polarization curve of a nickel surface in 2N H₂SO₄ as a result of such a voltage sweep.

In Figure 5 (page 472), Hagan discloses the measurements of two curves, wherein one measurement is for current density and the other is for charge density. Figure 5 is generated for "metglass MBF65 in 1N H₂SO₄ for an anodic potential step of 0.7 V" as a function of time (see page 471, right column, bottom paragraph). For each new analyze the metallic surface and the electrolyte have to be changed manually. Once the data sets are recorded on disk and the curves plotted on paper for reference they may be transferred to the IBM PC for further analysis (page 472, left column, first paragraph). Finally, Hagan states that for displaying a number of data sets on the same page or screen, a three-dimensional plot is often helpful (see, e.g., the paragraph bridging the left and columns and Figure 12 on page 474).

From the above it is evident that Hagan does not disclose or relate to a method for automatic measurements of a dependent property as a function of the independent variables of concentration and temperature. In fact, the diagrams in Hagan lack both temperature and concentration as independent variables. This is in addition to how the Hagan system is designed for the characterization of a metallic surface and is therefore not in analogous art with the present invention due to a completely different aim and method versus the present invention.

(v) Lack of Disclosure of All Claimed Features

In consideration of the above, none of the cited combinations of references discloses at least the instantly claimed step 5) of "the values obtained for the dependent properties are combined with the values for the independent properties to measuring points and stored

electronically in a computer”. Step 5) of instantly pending claim 1 is essentially taking the values of the dependent property and combined with the independent variables (e.g.; concentration; temperature) by the computer. In addition, the cited combinations of references do not disclose the instantly claimed feature of taking numerical measurements of properties of the liquid as a function of concentration and temperature. Accordingly, a *prima facie* case of obviousness has not been established since there is no disclosure of all claimed features (one of the three requirements for a *prima facie* case of obviousness). See *In re Vaeck; supra*.

(vi) Improper Combinations of References: Lack of Motivation and Reasonable Expectation of Success

Further, even if the Examiner believes all features are disclosed in the cited combinations of references, Applicants respectfully submit that the requisite motivation for a *prima facie* case of obviousness is lacking. Again, at paragraph 5, page 5, first full paragraph of the Office Action, the following conclusion of obviousness is made in the Office Action:

“ . . . It would have been obvious to one of ordinary skill in the art at the time the invention was made to add the computer of Rouse, Dombay or Hagan and use it to store the data of Tondre and produce three dimensional diagrams of the data as shown by Rouse, Dombay or Hagan because of the ability to map out an emulsion property, overcome the . . . as shown by Dombay or Hagan.”

However, combining these references is improper as follows.

Overall, one of ordinary skill in the art, in an attempt to achieve what is instantly claimed, would not use or refer to these four cited references. There are many features of the present

invention, wherein the skilled artisan would have to consider a multitude of factors to achieve what is claimed. Applicants respectfully submit that the Examiner's position of automation loses focus on what the references really disclose or teach.

For instance, though Tondre is cited as the primary reference as disclosing data storage and the other references are used to disclose use of a computer and production of three-dimensional diagrams, the skilled artisan would not refer to, e.g., Rouse because Rouse uses additions of oil and cosurfactant (to attain a solution that eventually becomes clear) that are essentially unpredictable in nature. In addition, the diagrams in Rouse are not produced by a computer, but are instead plotted manually. Thus, it is inaccurate to assert that Rouse is being used to disclose automation (as stated at page 5 of the Office Action). Further, all diagrams in the Rouse reference merely show concentrations as variables with an arbitrarily chosen critical transmittance value. This is another critical difference such that the skilled artisan would not combine Tondre with Rouse. Any further combination of Tondre and Rouse with either Dombay or Hagan does not make the instant rejection(s) as proper.

For example, despite any disclosure in Tondre (or Rouse or Hagan), the skilled artisan would not refer to Dombay because the emulsions in its methods are manually prepared. Dombay does not even disclose the claimed independent variables. Further, Dombay fails to disclose step 2) of pending claim 1, which is "determining by calculation the values for the component concentration in the measuring cell based on data from a control program for the change of component concentration."

In addition, the skilled artisan would not refer to Hagan because this secondary reference teaches the characterization of a metallic surface and is therefore not in analogous art with the

present invention due to a completely different aim and method versus the present invention. Further, the Hagan reference does not disclose or relate to a method for automatic measurements of a dependent property as a function of the independent variables of concentration and temperature. Even the diagrams in Hagan lack both temperature and concentration as independent variables (see, e.g., Figure 5). In addition, Hagan does not even disclose step 2) of pending claim 1, which is “determining by calculation the values for the component concentration in the measuring cell based on data from a control program for the change of component concentration”.

Applicants note that the initial burden of establishing a *prima facie* case of obviousness lies with the examiner. *In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992); *In re Piasecki*, 745 F.2d 1468, 1471-72, 223 USPQ 785, 787-88 (Fed. Cir. 1984).

Here, the Examiner states that it would be obvious to replace automate the Tondre method because “of the advantages of computing power”. This is an oversimplification of the problems associated in the art. Further, Applicants respectfully submit that this is the classical “obvious to try” argument as to why the claimed invention would have been obvious to those of ordinary skill in the art. The Examiner recognizes that the Tondre method is known in the art and, therefore, the next logical step is automate the method. However, Applicants find that the Examiner is confusing the level of skill in the art with the teachings of the prior art. *In re Kratz*, 592 F.2d 1169, 1175, 201 USPQ 71, 76 (CCPA 1979)(“[T]here is a difference between somehow substituting skill in the art for statutory prior art, as the PTO attempts to do here, and using that skill to interpret the prior art”); *see also Al-Site Corp. v. VSI Int’l Inc.*, 174 F.3d 1308, 50 USPQ2d 1161 (Fed. Cir. 1999) (the level of skill in the art cannot be relied upon to provide the

suggestion to combine references); *see also* M.P.E.P. § 2143.01. Accordingly, Applicants respectfully submit that the Examiner has not met the burden of proving unpatentability.

Applicants also submit that the rejection citing Hagan is overcome for an additional reason. Applicants respectfully refer the Examiner to *In re Oetiker*, wherein the Federal Circuit stated:

We have reminded ourselves and the PTO that it is necessary to consider "the reality of the circumstances", *In re Wood*, 599 F.2d 1032, 1036, 202 USPQ 171, 174 (CCPA 1979) -- in other words, common sense -- in deciding in which fields a person of ordinary skill would reasonably be expected to look for a solution to the problem facing the inventor. It has not been shown that a person of ordinary skill, seeking to solve a problem of fastening a hose clamp, would reasonably be expected or motivated to look to fasteners for garments. The combination of elements from non-analogous sources, in a manner that reconstructs the applicant's invention only with the benefit of hindsight, is insufficient to present a *prima facie* case of obviousness. There must be some reason, suggestion, or motivation found in the prior art whereby a person of ordinary skill in the field of the invention would make the combination. That knowledge can not come from the applicant's invention itself.

24 USPQ2d 1443, 1446 (Fed. Cir. 1992) (citing *Diversitech Corp. v. Century Steps, Inc.*, 850 F.2d 675, 678-79, 7 USPQ2d 1315, 1318 (Fed. Cir. 1988); *In re Geiger*, 815 F.2d 686, 687, 2 USPQ2d 1276, 1278 (Fed. Cir. 1987); *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1147, 227 USPQ 543, 551 (Fed. Cir. 1985). Here, Applicants respectfully submit that it has not been established as to how one of ordinary skill in this art would reasonably expect to be successful or be motivated in referring to a reference directed to characterization of a metal surface (e.g., Hagan) in order to solve the problems as described by the Examiner (e.g., ability to map out an emulsion property). Hagan is not in an art that is analogous to Tondre. Thus, Applicants respectfully submit that a *prima facie* case of obviousness has not been established

with respect to any rejection citing Hagan since not all requirements for a *prima facie* case of obviousness have been satisfied, including the requisite motivation and reasonable expectation of success.

Applicants submit that the present invention cannot be achieved by combining Tondre, Rouse and Dombay (one of the outstanding rejections stated in the Office Action). This is because it is not even clear how a three-dimensional diagram can be produced given how Dombay describes time as an independent variable, and not temperature as instantly claimed. Applicants note that a claimed combination cannot change the principle of operation of the reference or render the reference inoperable for its intended purpose. *See* M.P.E.P. §§ 2143.01(see sections entitled “The Proposed Modification Cannot Render the Prior Art Unsatisfactory For Its Intended Purpose” and “The Proposed Modification Cannot Change the Principle of Operation of a Reference”) and M.P.E.P. § 2145(III). Further, As the Federal Circuit has held: “If references taken in combination would produce a ‘seemingly inoperative device,’ we have held that such references teach away from the combination and thus cannot serve as predicates for a *prima facie* case of obviousness.” *See McGinley v. Franklin Sports Inc.*, 60 USPQ2d 1001, 1010 (CAFC 2001)(citing *In re Spinnoble*, 405 F.2d 578, 587, 160 USPQ 237, 244 (CCPA 1969) (references teach away from combination if combination produces seemingly inoperative device) and *In re Gordon*, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984) (inoperable modification teaches away)). In this regard, using the independent variable of time of Dombay, coupled with the Tondre description regarding data storage, still does not achieve steps 5) and 6) of pending claim 1. If anything, the skilled artisan would have to subtract the Dombay independent time variable, which would change the principle of operation

of the Dombay reference or render the Dombay reference inoperable for its intended purpose. Thus, the combination with Dombay and Tondre is improper, and citing Rouse and/or Hagan does not make the first combination any more proper.

Further, in the present invention, the values of temperature, concentration and the dependent property are measured directly in digital form and these values can directly be transformed to three-dimensional diagrams by the computer. However, this means that Tondre and Dombay cannot be combined in such a manner that the present method is obtained since the data in Dombay are partly analogous and partly handled manually. This is besides how Tondre itself also does not perform any automatic determination or measurement or any recording of the claimed independent variables as previously explained. Additionally, Dombay is not concerned with temperature as an independent variable (as discussed above) and makes all measurements sample by sample. In this regard, the teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *See In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). That is not the case here since the reasons given for combining the references at page 5 of the Office Action are in line with Applicants' specification, and not found in the cited references. Thus, the differences between Tondre and Dombay are essential and parts of the secondary reference cannot be simply picked from. Further, none of these cited references contain any hint that would motivate a person skilled in the art to combine the disclosures or teachings therein due to such inconsistencies between the references. As said above, even if one of ordinary skill in the art attempts to combine such disclosures, the resulting combination would not be all features as recited in independent claims 1 and 7 of the present invention.

Furthermore, it is not possible to combine Hagan and Tondre in such a way that the objects of instantly pending claims 1 and 7 are achieved, since the method disclosed in Hagan to collect data is not at all the same as the digital methods of the present invention. The Examiner tries to use Dombay and Hagan as a complement to Tondre and Rouse by a piece-by-piece combination, where the pieces are taken out from its context. Even so it is not possible for the Examiner to show how to combine the pieces to achieve the objects defined in Claims 1 and 7 of the present invention. In this regard, Applicants respectfully refer the Examiner to the chart shown above showing the lack of disclosure of the claimed features.

Thus, Applicants respectfully submit that a *prima facie* case of obviousness has not been established with respect to any of the rejections. Further, it is not a matter of automating some known process in order to achieve the present invention. The present invention recites many features that are missing in each references, as well as the combinations thereof. In addition, a reading of each reference in its entirety shows that the requisite motivation and/or reasonable expectation of success are lacking. Accordingly, reconsideration and withdrawal of all rejections are respectfully requested.

New Claims 12-17

Favorable action is respectfully requested of newly presented claims 12-17.

Conclusion

A full and complete response has been made to all issues as cited in the Office Action. Applicants have taken substantial steps in efforts to advance prosecution of the present

application. Thus, Applicants respectfully request that a timely Notice of Allowance issue for the present case.

Expedited Prosecution Requested

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Eugene T. Perez (Reg. No. 48,501) at the telephone number of the undersigned below.

In particular, Applicants wish to avoid any further piecemeal examination. *See* M.P.E.P. §§ 707.07(g) and 707.07(a). Applicants respectfully request early and favorable action on the merits of this application. Applicants note the history of this case:

- First Office Action issued on 07-05-01;
- Reply by Applicants filed on 11-05-01;
- Second (and Final) Office Action issued on 01-18-02, wherein previous arguments by Applicants rendered moot in view of new grounds of rejection;
- Response by Applicants filed on 09-09-02 (no claim amendments);
- Advisory Action issued on 09-16-02;
- Preliminary reply filed by Applicants on 10-03-02;
- Third Office Action issued on 12-10-02, wherein previous arguments by Applicants rendered moot in view of new grounds of rejection;
- Interview conducted on 03-06-03;
- Reply by Applicants filed on 04-07-02;

- Fourth Office Action issued on 06-18-03;
- Reply by Applicants (with claim amendments) filed on 09-22-03;
- Fifth (and Final) Office Action issued on 12-03-03;
- Reply (after Final) filed by Applicants on 03-03-04;
- Advisory Action issued on 04-08-04;
- Applicants file Appeal Brief (with Notice of Appeal beforehand) on 07-06-04;
- Examiner's Notice that Appeal Brief is defective issued on 09-17-04;
- Interview with Supervisory Patent Examiner, wherein Notice is withdrawn and Appeal Brief accepted on 09-27-04;
- Sixth Office Action issued, wherein prosecution is reopened and previous arguments by Applicants rendered moot in view of new grounds of rejection on 11-04-04;
- Applicants file Reinstatement of Appeal and Supplemental Appeal Brief on 03-03-05;
- Seventh Office Action issued, wherein prosecution is reopened and previous arguments by Applicants rendered moot in view of new grounds of rejection on 04-15-05;
- Reply (with claim amendments to address 35 U.S.C. § 112, second paragraph issues) filed by Applicants on 07-15-05;
- Eighth Office Action issued, wherein previous arguments by Applicants rendered moot in view of new grounds of rejection on 09-28-05; and
- The Reply herein addresses the issues in the Eighth Office Action, including the new grounds of rejection.

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Thus, Applicants have taken substantial steps in efforts to advance prosecution of the present application and respectfully request favorable and early action on this application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Dated: Monday, January 30, 2005

Respectfully submitted,

By 

D. Richard Anderson

Registration No.: 40,439

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Attachments: Replacement Drawing for Figure 1
Replacement Drawing for Figure 2